

Rec'd PCT/PTO 20 OCT 2004

511, 894

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
6 November 2003 (06.11.2003)

PCT

(10) International Publication Number
WO 03/091193 A1

(51) International Patent Classification⁷: **C07C 49/693**, 49/477, 49/743, 49/513, A61K 31/122, A61P 25/24

(74) Agents: MINOJA, Fabrizio et al.; Bianchetti Bracco Minoja S.r.l., Via Rossini, 8, I-20122 Milano (IT).

(21) International Application Number: PCT/EP03/03923

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 15 April 2003 (15.04.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
MI2002A000871 23 April 2002 (23.04.2002) IT

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): **INDENA S.P.A.** [IT/IT]; Via Ortles, 12, I-20139 Milano (IT).

Published:

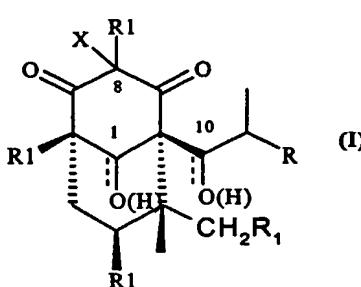
— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **BOMBARDELLI, Ezio** [IT/IT]; Via Val di Sole, 22, I-20141 Milano (IT). **MORAZZONI, Paolo** [IT/IT]; Viale Ortles, 12, I-20139 Milano (IT). **RIVA, Antonella** [IT/IT]; Viale Ortles, 12, I-20139 Milano (IT). **FUZZATI, Nicola** [IT/IT]; Viale Ortles, 12, I-20139 Milano (IT).

(54) Title: HYPERFORIN HALOGENATED DERIVATIVES, THE USE THEREOF AND FORMULATIONS CONTAINING THEM



(57) Abstract: Hyperforin and adhyperforin halogenated derivatives of general formula (I) in which X, R and R₁ have the meanings as defined in the disclosure, the process for the preparation thereof and the use thereof in the pharmaceutical and/or nutritional field, in particular in the treatment of depression, and Alzheimer's disease.

WO 03/091193 A1